Red Threads in Flores

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fig. 1 Beldina Senggo in front of two geometric women's sarongs on the veranda of her house in Flores. In her hand she is holding a rosary, which also features in her large-scale figurative sarongs. Photo: Sabine Wunderlin, 2009

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In Central Flores, Indonesia, the most prestigious ikat textiles are red-brown with subdued yellow designed patterns and dark red and blue motif elements. In the form of tubular women's skirts and men's shoulder cloths, these textiles are presented as gifts and worn at festive occasions, and if the right opportunity presents itself they are also sold for a good price.[1] One of the characteristics that makes these objects so striking is their colour.[2] Ikat cloths can also be made with a blue-black or black background colour. Two cloth types made of dark red fabric have achieved iconic status: a cloth for men *(luka semba)* and a skirt for women *(lawo luka semba)*, their patterns re-interpreting the Indian double ikat cloths *(patola)* with their eight-pointed flower motif which were once widespread in Indonesia.[3]

Here, I will focus more closely on the practical knowledge and skills needed to produce colour textiles and the striking colours of two 'figurative sarongs'. These festive women's skirts, featuring figurative motifs from mythology and other sources, are a fairly recent trend in local ikat fashion and art.[4] They were produced by a highly accomplished 64-year-old weaver called Dinaro Betasengo, who lives in Nggela, one of the centres of Lio culture. Thanks to her high-ranking clan membership on her mother's side, Mama Dina inherited the ideal conditions for being an ikat weaver. She once said about the cloth type of the figurative sarong: "My favourite sarong is the *lawo gamba,* because then I can make my own creations."[5]

In addition to expertly produced cloths with geometric patterns (fig. 1), Mama Dina makes two kinds of figurative sarong: one type with mythological motifs arranged in vertical rows, and another with motifs distributed over the whole area which are more related to everyday life. Here we can see the former kind, which is characterised by motifs of the rice goddess. The background is a well-known myth in South East Asia concerning the origins of food crops.[6] In the Lio region it is narrated that after a young woman called Ine Mbu had been hacked apart by her brothers, rice and other edible plants grew out of her remains. In this manner she was transformed into the rice goddess Ine Pare. According to Mama Dina and others, the models for the motifs are taken from drawings found in a book about the mythical origins of the island Flores, *Nusa Nipa* by Father Piet Petu.[7] It was the late Father, an anthropologist and former director of the Bikon Blewut cultural history museum near Maumere, who initiated the idea of the drawings being adopted as ikat patterns, one idea being that the weavers could supplement their income by making sarongs. Mama Dina and other exceptionally skilled weavers in the Nggela region have found many different ways of re-interpreting his 'snake island sarong' *(lawo Nusa Nipa)*[8] featuring four rows of motifs as a 'figurative sarong with rice goddess' *(lawo gamba Ine Mbu Ine Pare)*.

‘Figurative sarong with rice goddess’ made of natural red

The first sarong has five rows, each with six large motifs arranged vertically (fig. 2 and 3). The main motifs show a rendering of the *Ine Mbu Ine Pare* scene; then to the right, from the wearer’s perspective, there is a sacred snake spitting gold jewellery with the island of Flores, and a woman wearing ritual moon-shaped gold jewellery; to the left is the ‘tree of abundance’ with gold ear pendants, and a large gold decorative ornament. The panels are edged with finely decorated lines and the vertical seam is bordered by a row of *tumpal* motifs which are familiar from other Indonesian textiles. Three of the five motifs are interpretations of the drawings from *Nusa Nipa,* while two motifs (the gold decorative ornament and the woman with gold jewellery) were designed by Mama Dina herself. The latter motif is particularly interesting, as the woman wears jewellery for a ritual to renew the grass roofs of several ceremonial buildings. The motif can therefore be interpreted as a kind of self-portrait of Mama Dina.

Key elements of the motifs are depicted in red: the bodies of the brothers, the blouse of the woman wearing ritual jewellery, the ‘bodies’ of the large and smaller gold ornaments representing the female vulva, and a stylised Flores island with a snake entwined around it. Only occasional sections of clothing are blue, while the background colour is a warm rusty red.

Figurative sarongs made with natural dyes are rare. In the 1980s, when I first started conducting anthropological research into the economy and culture of textiles and rituals in Central Flores, it was primarily cloths inspired by the *patola* pattern that were dyed with indigo and morinda. Apart from the fabrics mentioned above *(luka semba* and *lawo luka semba)*, this included what used to be a wedding sarong with lozenge motifs spread over the entire central area *(lawo redu)* and a vertically patterned sarong with more refined lozenge motifs *(lawo pundi)*. Several types of cloth with horizontal blue-black bands were often dyed with indigo. Synthetic dyes were mostly used for textiles which were destined for sale.

After completing extended field studies (1987–1988 and 1990–1991), I wanted to become active in ensuring that knowledge of old dyeing techniques did not peter out. *Proyek Lawo Kembo* (1993–1999) was an initiative I organised in cooperation with the local credit cooperative *Kale Tau Mbale*. The project featured three two-year phases of producing women’s skirts made with morinda *(kembo)* and a final two-year phase (1999–2001) when weavers were given the opportunity of taking out a loan in order to produce high-quality sarongs. The thirteen or so women who took part in each round were able to determine the patterns themselves. One of the weavers who was adept at group organisation would become the supervisor. By then, various kinds of indigo leaves *(Indigofera)* and morinda roots *(Morinda citrifolia)* had become available in the village

fig. 2 Women's *lawo gamba* skirt. The motifs are taken from drawings in *Nusa Nipa*. Nggela, Lio, Flores, Indonesia, 1995. Machine-spun cotton, warp ikat, indigo, morinda. 75 x 162 cm. Collection: Willemijn de Jong. Photo: Sabine Wunderlin, 2016

fig. 3 Women's *lawo gamba* skirt. The motifs have been created from imagination. Nggela, Lio, Flores, Indonesia, 1995. Machine-spun cotton, warp ikat, indigo, morinda. 75 x 162 cm. Collection: Willemijn de Jong. Photo: Sabine Wunderlin, 2016

and the surrounding fields, whereas in the past they had to be obtained from further away. I provided loans of varying amounts for the materials and guaranteed to purchase one of the two – or more – cloths produced at the same time. The sarong described above was produced during the first phase (1993–1995), as one of approximately forty naturally dyed women's skirts which resulted from the project.

How are the rusty red background colour and the yellow, red and blue colours of the pattern created? Firstly, the pattern is tied off on the ikat frame with fine coconut fibres in six layers of yarn (for the six motifs lined up under each other). The elements which are to become red are ikatted with thicker fibres, while the elements which are to become blue are not tied off. Cotton yarn is used for both the warp and weft threads. As is always the case for naturally dyed ikat cloths in this region, the first dye-bath is performed with indigo, which creates a light blue. Mama Dina commissioned another woman to do the indigo dyeing for her.

Dyeing blue with indigo *(taru)*:

1. Place the indigo leaves in water for three days.
2. Squeeze the leaves and mix in two coconut shells full of lime and a kemiri nut per pot.
3. Throw away the clear upper layer of water and sieve the rest of the liquid.
4. Pour the water through a cloth containing woodash. Distribute the liquid from the previous day and the ash water into approximately ten clay pots, mix, and leave to stand overnight.
5. After mixing the liquid, dye three times, e.g. in the morning, afternoon and the next morning.
6. Afterwards make additional dye. New dye has to be made up to three times for the blue of ikatted cotton yarn.

The yarn is then stretched on the ikat frame once more. The red motif sections are opened, and those that are to remain blue are tied off. Subsequently the ikatted yarn for the warp and the non-ikatted yarn for the weft are oiled with kemiri nuts, and ideally dyed red at least six times with the root bark of the morinda tree and various ingredients, some of which are secret. The finely milled leaves of the *lobha* plant *(Symplocos)*, which have been bought at the market, are used as a mordant containing aluminium.[9] Someone else was assigned with digging out the roots, while Mama Dina did the dyeing herself.

Dyeing red with morinda *(kembo)*:

1. Oil the yarn with finely pounded kemiri nuts, ginger and salty water which has been sieved through woodash. Let the yarn dry for a day in the sun and then leave it for one to three months.
2. Dig up the roots, clean and pound them.
3. Add water which has been sieved through woodash, *lobha* and other ingredients (e.g. betelnut juice, kemiri, ginger, lemon juice), knead yarn into the lump of dye and leave it to dry in the sun.
4. Repeat this process for at least four days.
5. Clean the yarn with seawater, dry and leave it for several months.
6. For a 'good' dark colour this process has to be repeated at least six times.

This produces the red of the motif elements, and dyeing over the blue yarn creates the warm rusty red as a background colour. The yellow colour can only develop as a side-effect of the morinda red, which should easily penetrate the tied off yarn too – for this reason the yarn has to rest for some time between each morinda dye-bath. This process takes at least two years, but ideally three, four, or even longer. If the pattern on the weft seems too white or beige, a chemical yellow dye is often used as supplementary help. The cotton yarn becomes firmer after the dyeing, which makes the weaving strenuous.

I was not able to determine the exact process for dyeing the sarong; not all the women were prepared to speak openly about it. Perhaps this was because conditions had been negotiated at the beginning stipulating that six morinda dye-baths should take place. Or perhaps it was because the weavers did not want to reveal their dyeing secrets. They frequently said, "We don't do calculations." I suspect that when dyeing the warp red, instead of the more prolonged *kembo lama* dyeing process, morinda was only used four times in a quicker procedure called *kembo cepat*. In this case no synthetic red was added, as is often done. Four of the thirteen weavers explicitly stated that they had chosen to use the more time- and labour-intensive version, as had been agreed.

This illustrates the 'problems', or rather the peculiarities that arise when the weavers of today use natural red dyes – but also the issues associated with this kind of project. Morinda roots are costly when the weaver does not personally dig them up, and the entire dyeing process requires enormous time and energy. Few weavers can – or want to – make this kind of commitment; indeed, few value the process as appropriate or lucrative. Before the project began Mama Dina repeatedly expressed such sentiments.

Viewed from a negative perspective, the result could be interpreted as being unfair, and the women tended to characterise the work of other weavers accordingly: "What she's doing isn't fair!" Viewed from a more positive standpoint, it generates an individual, creative approach to old and new colour materials and

other ingredients, one that achieves an optimal result despite limited resources. In fact, the sarongs produced by the project are generally either good or very good, for weavers such as Mama Dina possess both a work ethic that respects rigorous standards of quality and an exceptionally well-developed awareness of colour nuances. The technology and knowledge of ikat patterning, however, are subject to constant change.

'Figurative sarong with rice goddess' made of synthetic red

The second sarong is structurally similar, with five different motifs in vertical rows and *tumpal* rows for the side finishes. A new addition are the two broad horizontal bands depicting four smaller figurative groups of motifs, which define the top and bottom edges of the main section. Two of the motifs (the *Ine Mbu Ine Pare* and the 'tree of abundance') were taken from the book *Nusa Nipa* (fig. 4). Three of them were created by Mama Dina herself (fig. 5), two of which are variations on the gold decorative ornament and the woman with ritual gold jewellery, shown here along with a ceremonial house, animals and plants. The third new motif depicts the 'local hero' of the Lio region, Mari Longa. Mama Dina views his role as being similar to that of the brothers in the ritual murder of Ine Mbu.

The red colour – hardly noticeable to the untrained eye – is very different from that of the first sarong. The background colour is blue-black, which is emphasised by the black yarn used for the weft. The yellow of the motifs is more intense and makes the pattern stand out more clearly. While certain elements of the motifs are still red, the shade is darker, and there is a red-violet lustre over the bluish-black background colour.

It was Mama Dina's own idea to produce this sarong in 2010, and she offered it to me for sale in 2011. As with the majority of participants in the project, the *lawo kembo* initiative did not inspire her to continue producing cloths with morinda. The yellow of the sarong came about because she took yellow dyed rayon yarn to ikat the pattern. This technique was already occasionally in use in the 1990s, but in recent years it has increased strongly. Even the cotton yarn for the *lawo kembo* project used to be pre-dyed with yellow dye every so often.

In order to achieve the blue for the sarong, naphthol was used for the first dye-bath. Locally known as *celup,* this colourfast dye is darker than indigo.

fig. 5 Detail of a women's *lawo gamba* skirt. The main motifs have been created from imagination: the hero of the Lio region, Mari Longa, with stylised human figures and komodo dragons; woman with ritual moon-shaped gold jewellery *gebe;* ceremonial house, animals and plants. Nggela, Lio, Flores, Indonesia, 2011. Machine-spun yellow rayon, warp ikat, naphthol blue, synthetic red and black dyes. 76 x 156 cm. Collection: Willemijn de Jong. Photo: Sabine Wunderlin, 2016

fig. 4 Women's *lawo gamba* skirt. The main motifs are taken from drawings in *Nusa Nipa*. Nggela, Lio, Flores, Indonesia, 2011. Machine-spun yellow rayon, warp ikat, naphthol blue, synthetic red and black dyes. 76 x 156 cm. Collection: Willemijn de Jong. Photo: Sabine Wunderlin, 2016

Dyeing blue with naphthol *(celup):*

1. For a sarong add one tablespoon of naphthol ASBO to1/3 tablespoon soda and 1/10 tablespoon turkey red oil powder mixed with hot water.
2. Place the mordant in cold water. Knead the yarn into the liquid.
3. Beat the yarn on a stone so that the dye can penetrate all the way through.
4. Dissolve the naphthol powder for the blue dye (one tablespoon light green powder per sarong) and add to cold water. Stir the ikatted yarn and wring it out.
5. Leave the yarn for a while in the coloured water, then wash out and dry.

As a result, those elements of the motif which are supposed to be red are opened on the ikat frame. The second dye-bath submerges the yarn in red synthetic dye made by *Wantex,* producing the red elements of the motif and the red lustre over the dark blue. Some black dye is mixed in too, because the red should not be a vibrant shade.

Dyeing red with *Wantex (kesumba):*

1. Boil water and add two packets of red dye and half a packet of black dye for a sarong, as well as half a litre of soda-water.
2. Other ingredients are betelnut juice, kemiri, salt and kerosine, possibly ginger and lemon juice too. These plant-based [!] ingredients vary and are kept secret.
3. Press the yarn, which has already been dyed with indigo or naphthol, into the liquid and boil it for approximately five minutes, then wash out and dry.
4. Prevent the yarn from breaking by immersing it in a starch made of rice and tamarind.

The weavers call this dye *kesumba* or *sumba.* Although it is not colourfast like naphthol, the dyeing process is less complicated and the resulting colours are warmer. The yellow or orange of the rayon yarn as the basic colour of the pattern is also not supposed to be too intense at the end. If necessary the shade can be made darker. The dark red of the motif elements and the red over-dye can be seen to best effect in sunlight, when the yellow colour also appears to be golden. Through their 'refined colours'[10] the weavers consciously distinguish themselves from neighbouring locations such as Jopu, where synthetic dyes (mainly naphthol) have long been used and a preference for more vibrant colours has developed.

The technique of dyeing with synthetic dyes has been familiar in Central Flores for a considerable time; *Wantex* was apparently first introduced around 1950. The government, however, has been actively promoting this dyeing method since the start of the 'New Order'[11], and particularly from around 1975 onwards, both as a symbol of new technology and as an opportunity for weavers

to generate income more quickly. In the 1980s rayon yarn became increasingly popular for tying. Until around a decade ago, white rayon was the most common yarn in Nggela, and the blue motif elements were frequently dyed with indigo. Since morinda cannot be used with rayon yarn, however, synthetic red and black became more and more popular. Although the quality of the ikat work consequently improved, that of the morinda dyeing declined, as the weavers repeatedly emphasise.

Are natural colours a must?

A report prepared by an international workshop on ikat weaving in the Indonesian province of East Nusa Tenggara (NTT, the eastern part of the Lesser Sunda Islands), to which Flores belongs, contained the opinion that natural dyes would improve the quality of the cloths.[12] However, the report continued, most weavers on the island of Ndao near Rote had been using the synthetic dyes *Wantex* and naphthol for the last forty years, because there were limited opportunities for selling naturally dyed cloths, and most local consumers found natural colours less attractive. There was also a suggestion that the local government could ban the polluting synthetic dyes for ecological reasons and promote the cultivation of plants to be used for dyeing.

Motivated primarily by ecological concerns, recent attempts have indeed been made in Indonesia to increase the use of plant dyes.[13] The *Detox* campaign being staged by the environmental organisation *Greenpeace* since 2011 has had a significant impact on the globally active Asian clothing and textile industry, but it is also fighting environmentally dangerous chemicals used in Indonesian textile production.[14]

With reference to hand-woven textiles on Flores, a weaving group from Watublapi village, in the region of Sikka, has been concentrating on naturally dyed cloths since 2004. The group, called *Sanggar Bliran Sina,* is led by Daniel David and was founded with the help of the German pastor Heinrich Bollen. Publicity comes from a plethora of media appearances and YouTube videos, and the group receives support from the regional government.[15] A study into the group's working methods and how it has achieved success would certainly be worthwhile. It is notable that the red colour of many of the ikat cloths is somewhat lighter, which means that the morinda process is shorter and thus less complicated than that used in the Lio region further to the west.

Let us return to the two sarongs made by Mama Dina. The ikat motifs on the sarong made with rayon yarn and chemical dyes are noticeably much clearer; moreover, as long as there are not too many layers of yarn being ikatted simultaneously they are also finer and more precise. The weavers value this high quality.

Sarongs like this are also more pleasant to wear, they say, because the yarn is less rigid. On the other hand, rayon yarn breaks if it is not processed relatively quickly after being ikatted and dyed.

It is also interesting that the colour of the pattern has gradually changed from white-beige to yellow and sometimes orange. Yet as mentioned above, local preferences mean that the colour should not be too vibrant. The background colour has changed from rusty red to black-red. The naturally dyed sarong still smells of morinda and is a captivatingly 'sweet' red-brown. The blue sections reveal the softer effect of indigo, which is what gives the cloth its particular character. Whether natural or synthetic dyes are used, the manufacturing process is complex and surrounded by secrecy. Often the two techniques become jumbled up together and cannot be sharply distinguished. What remains very obvious is that natural dyes require far more resources in these circumstances, both financially and in terms of labour.

Ultimately, we can conclude that ikat as an art form in Central Flores has by no means suffered from the declining use of natural dyes – in fact, quite the opposite. The increasing use of rayon yarn and synthetic dyes from the latter half of the twentieth century onwards has meant that ikat has developed in many diverse ways. For this reason I do not endorse the viewpoint that we should be grieving the loss of natural dyes, for this would be to ignore the exciting new opportunities that access to synthetic yarns and dyes can offer to the art and crafts of ikat-weaving. It is up to the authorities – national and transnational, state and civil – to find alternatives for dyes which are damaging to health and the environment. They must put pressure on the global producers of textile chemicals and clothes in Indonesia and China, for their supply of basic materials is decisive for the commodity chain of handmade textiles, too.

Building on the reflections of Diana Young (2006) on 'material colours' and Alfred Gell (1998) on 'art and agency', we can assert that weavers such as Mama Dina undoubtedly produce striking artefacts. Ikat textiles such as those presented here are culturally, socially and economically significant – not just locally, but also trans-locally via private and public textile collections. The colours of these 'things' structure the extensive knowledge of the weavers and influence their ideas and social relationships – as well as those of the women who wear the sarongs. The weavers are formidable actors at a local level, but trans-locally they are weak links in their textiles' commodity chains. A political or ideological demand that exclusively 'traditional' natural dyes be used would endanger the economic survival of these weavers, as well as the ikat art that they practice, for only more types and nuances of red threads can lead these Flores weavers to their goal.

The knowledge of textiles presented here is the result of cooperation with Mama Dina and many other weavers spanning around thirty years. I would like to thank everyone who has made a contribution during that period.

1 cf. Hamilton 1994; Jong 2015
2 cf. Young 2006
3 Jong 2016
4 Jong 2011
5 Interview from 11.7.2013
6 Weijden 1981
7 Sareng Orinbao 1969
8 Sareng Orinbao 1992: 105
9 Bühler 1940; Cunningham et al. 2011
10 cf. Taussig 2009
11 The term 'New Order' *(Orde baru)* is used for the period in office of the second Indonesian President Suharto (1966–1998).
12 Haning 2012
13 cf. Indrianingsih and Darsih 2013; Widiawati 2009
14 Greenpeace International 2013
15 Boediwardhana 2011

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